

I claim:

1. A high-density connector assembly comprising :
  - a plurality of individual terminal assemblies, each terminal assembly having a plurality of signal terminal disposed therein in a signal terminal array; each of the signal terminals including a contact portion for mating with an opposing connector, a tail portion for connecting to a circuit board and a body portion interconnecting the contact and tail portions together, the terminal body portions being supported within an insulative frame; and,
    - a conductive ground structure that encompasses said signal terminals and which supports the frame, the ground structure including at least a pair of interengaging housing halves having a plurality of grooves formed in opposing faces thereof, the grooves supporting said frame in place between said housing halves such that each of the grooves receives a single terminal therein.
2. The connector assembly of claim 1, wherein said frame is molded over portions of each of said terminals
3. The connector assembly of claim 2, wherein said frame includes slots formed longitudinally therein arranged along axes of at least some of said terminals exposing portions of said terminals to air.
4. The connector assembly of claim 3, wherein said ground structure housing halves include interior face portions that oppose each other and surround said frame, the interior face portions being plated with a conductive material.
5. The connector assembly of claim 4, wherein said ground structure grooves are sized to provide an air gap between said frame and said ground structure housing halves.
6. The connector assembly of claim 3, wherein said ground structure includes means for holding said ground structure housing halves together as a single

component, said ground structure housing halves being plated with a conductive material and said ground structure housing halves including tail portions for connecting to at least one ground circuit disposed on a circuit board to which said connector assembly is mounted, such that said ground structure housing halves provides a common ground for each of said terminals held by said frame.

7. The connector assembly of claim 3, wherein said slots are arranged in said frame to divide portions of said frame into distinct top and bottom portions.
8. The connector assembly of claim 1, wherein said frame includes at least one engagement member formed thereon which engages at least one of said housing halves to position said frame within said ground structure.
9. The connector assembly of claim 8, wherein said ground structure includes at least one opening formed therein that receives the at least one engagement member of said frame.
10. The connector assembly of claim 1, wherein said frame includes at least one T-shaped engagement lug that is received within a corresponding opposing of one of said housing halves, the engagement lug having a head extending transverse to said terminal longitudinal axes, the head retaining the engagement lug in place with said housing halve opening.
11. The connector assembly of claim 1, wherein said housing halves and frame cooperatively define a wafer member, and said connector assembly includes a cover member into which said wafer members fit, and said ground structure further includes means for engaging an alignment bar for aligning said wafer members together.

12. The connector assembly of claim 1, wherein said terminal tail portions include surface mounting feet for mounting to a circuit board, the surface mounting feet including body portions with narrow mating portions projections therefrom, the surface mounting feet including re-entrant portions where the narrow mating projections extend from the body portions that promote wicking of solder onto said surface mounting feet.

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13. The connector assembly of claim 1, wherein said ground structure includes a plurality of tail portions arranged along opposing edges of a mounting face of said ground structure, the ground structure tail portions including surface mounting feet having wide body portions and narrow contact portions extending therefrom, the difference in size between said narrow contact portions and the wide body portions promoting wicking of solder onto the ground structure surface mounting feet.

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14. The connector assembly of claim 13, wherein said ground structure further includes a plurality of recesses disposed along opposing edges of the ground structure mounting face and interposed between said ground structure tail portions.

15. The connector assembly of claim 14, wherein the recesses of one ground structure receive said tail portions of an adjacent ground structure when said ground structure and adjacent ground structure are mounted to a circuit board.

16. A connector, comprising:

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    a plurality of conductive terminals having contact portions for mating with terminals of an opposing connector and tail portions for mounting to a circuit board;

    an insulative shell member supporting the terminals, the shell member including a body portion having a plurality of walls formed thereon, the walls and body portion cooperatively forming a plurality of insulative terminal-

receiving channels formed therein, each of the channels receiving a single terminal therein, each of said channels further including an opening at one end for receiving a contact portion of a terminal from the opposing connector, said shell member further including a plurality of spaced-apart slots disposed therein, the slots partially separating adjacent channels; and,

a conductive shield member that is engageable with said shell member, the shield member including a base with a plurality of spaced-apart walls disposed thereon, the walls being received within said shell member slots such that said shield member base and walls define at least three conductive members that are located on three distinct sides of said channel in order to partially surround channels that extend along at least three sides of said terminals within said body channels.

17. The connector of claim 16, further including a plurality of insulative shell members and shield members assembled together, the assembled shell and shield members being received within an outer hollow cover.

18. A connector comprising :

a plurality of individual terminal assemblies, each terminal assembly having a plurality of signal terminal disposed therein in a signal terminal array, each signal terminal including a contact portion for mating with an opposing connector, a tail portion for connecting to a circuit board and a body portion interconnecting the contact and tail portions together, the terminal body portions being supported within an insulative frame;

the terminal tail portions including wide body portions for surface mounting said terminals to a circuit board, the tail wide body portion including narrow contact portions that extend out therefrom into contact with solder on a circuit board when said connector is mounted to the circuit board, the difference in dimensions between said wide body and narrow contact portions defining notches that promote wicking of solder onto said tail wide body portions; and,

15 a conductive ground structure that encompasses said signal terminals and which supports the frame, the ground structure including at least a pair of interengaging housing halves said frame and terminals in place therebetween, the ground structure including a plurality of surface mount tail portions arranged along opposing edges of a mounting face of said ground structure, the

20 ground structure surface mount tail portions also including having wide body portions and narrow contact portions extending therefrom, the difference in size between said narrow contact portions and the wide body portions promoting wicking of solder onto the ground structure surface mount tail portions.

19. The connector of claim 18, wherein said ground structure further includes a plurality of recesses disposed along opposing edges of the ground structure mounting face and interposed between said ground structure surface mount tail portions.

20. The connector of claim 19, wherein the recesses of one ground structure receive said tail portions of an adjacent ground structure when said ground structure and adjacent ground structure are mounted to a circuit board.